What Is Claimed Is:

1. A method for depositing flux on a substrate having a plurality of conductive terminals arranged thereon, the method comprising the steps of:

positioning the substrate on a predetermined location; and

controllably spraying flux having a viscosity range between about 10 centipoises and about 150 centipoises on the substrate at a valve pressure range between about 1.5 psi and about 30 psi to deposit the flux on the plurality of conductive terminals.

2. The method of claim 1, wherein the step of controllably spraying flux further comprising the steps of:

determining a configuration of the substrate and an arrangement pattern of the conductive terminals thereon;

deciding an optimum valve pressure and flux viscosity based on the configuration of the substrate and the arrangement pattern of the conductive terminals; and

controllably spraying flux having the determined optimum viscosity at the determined valve pressure to deposit the flux on the plurality of conductive terminals.

3. The method of claim 2, further comprising the step of deciding an optimum flux spray pattern based on the configuration of the substrate and the arrangement pattern of the conductive terminals.

4. The method of claim 3, wherein the configuration of the substrate and the arrangement pattern of the conductive terminals are transformed to computer-recognizable data, and provided to a data processing device.

5. The method of claim 4, wherein the optimum valve pressure, flux viscosity and flux spray pattern are decided by the data processing device and stored therein.

6. The method of claim 5, wherein the step of spraying the flux is automatically controlled by the data processing device so as to deposit flux having the optimum viscosity on the substrate at the optimum valve pressure by the optimum flux spray pattern.

7. The method of claim 3, wherein the step of deciding an optimum flux spray pattern comprising the step of deciding a plurality of subsets based on the configuration of the substrate and the arrangement pattern of the conductive terminals, each subset comprising a plurality of conductive terminals closely located to each other.

8. The method of claim 7, wherein the flux is selectively sprayed sequentially on each subset of the conductive terminals.

9. The method of claim 1, wherein the step of controllably spraying flux is performed by a flux dispenser containing the flux and equipped with a flux needle.

10. The method of claim 9, wherein the flux needle has a diameter range between about 0.1 mm to about 0.6 mm.

11. The method of claim 10, wherein the flux needle has a needle opening having a diameter range between about 5 micron and about 60 micron.

12. The method of claim 9, wherein the flux contained in the flux dispenser is maintained at a fluid pressure range between about 0.5 psi and about 30 psi.

13. The method of claim 12, wherein a main pressure range of the flux dispenser is maintained at a pressure range between about 60 psi to about 100 psi to maintain the valve pressure range and the flux pressure range.

14. The method of claim 1, wherein the substrate is a printed circuit board.

15. The method of claim 14, wherein the plurality of conductive terminals are flip-chip pads arranged on the printed circuit board.

16. The method of claim 1, wherein the substrate is a flip-chip type electrical component.

17. The method of claim 16, wherein the plurality of conductive terminals are flip-chip bumps arranged on the flip-chip type electrical component.

18. An apparatus for dispensing flux on a substrate having a plurality of conductive terminals thereon, the apparatus comprising:

a flux fluid chamber containing flux having a viscosity range between about 10 centipoises and about 150 centipoises; and

a flux dispense nozzle connected to the flux fluid and spraying the flux at a valve pressure range between about 1.5 psi and about 30 psi to deposit the flux on the plurality of conductive terminals.

19. The apparatus of claim 18, further comprising a data processing device controlling spraying the flux.

20. The apparatus of claim 19, wherein the data processing device decides an optimum valve pressure and flux viscosity based on a configuration of the substrate and an arrangement pattern of conductive terminals thereon, and automatically controls the apparatus to spray the flux having the optimum flux viscosity at the optimum valve pressure to deposit the flux on the plurality of conductive terminals.

21. The apparatus of claim 20, wherein the data process device further decides an optimum flux spray pattern based on the configuration of the substrate and the arrangement pattern of conductive terminals thereon.

22. The apparatus of claim 21, wherein the data processing device decides a plurality of subsets based on the configuration of the substrate and the arrangement pattern of conductive terminals thereon, each subset comprising a plurality of conductive terminals closely located to each other.

23. The apparatus of claim 22, the data processing device controls the apparatus to selectively spray the flux on each subset sequentially.

24. The apparatus of claim 18, wherein the flux nozzle is a flux needle.

25. The apparatus of claim 24, wherein the flux needle has a diameter range between about 0.1 mm to about 0.6 mm.

26. The apparatus of claim 25, wherein the flux needle has a needle opening having a diameter range between about 5 micron and about 60 micron.

27. The apparatus of claim 18, wherein the flux contained in the flux fluid chamber is maintained at a fluid pressure range between about 0.5 psi and about 30 psi.

28. The apparatus of claim 27, wherein a main pressure range of the apparatus for dispensing flux is maintained at a pressure range between about 60 psi and about 100 psi to maintain the valve pressure range and the flux pressure range.

29. The apparatus of claim 18, wherein the substrate is a printed circuit board and the plurality of conductive terminals are flip-chip pads arranged on the printed circuit board.

30. The apparatus of claim 18, wherein the substrate is a flip-chip type electrical component and the plurality of conductive terminals are flip-chip bumps arranged on the flip-chip type electrical component.